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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,288	01/08/2004	John Christian Sorensen	10541-1783	1333

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EXAMINER

TRIEU, THAI BA

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/755,288

Applicant(s)

SORENSEN ET AL.

Examiner

Thai-Ba Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/02/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claims 3-4 and 23-24 are objected to because of the following informalities:

- Line 1, -- **transition** -- should be inserted after "**bell-mouth**".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 14-15, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ironside et al. (Patent Number 5,261,236).

Regarding claims 1 and 14-15, Ironside discloses an air induction system for inducing airflow into the intake of an internal combustion engine (1) having a turbocharger (11, 12), said system comprising:

a clean air duct (18) directing airflow to the inlet of the turbocharger (11,12),

a plenum (16) integrated with said clean air duct, said plenum located within the area directly in front of the inlet of the turbocharger, said plenum having an increased cross-sectional area relative to a cross-

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sectional area of a portion of said clean air duct immediately proceeding said plenum thereby reducing the velocity of the air flow immediately prior to delivery of the air flow to the turbocharger (See Figure 1, Column 4, line 45-49); and

a diffuser (18) in communication with said plenum (16), wherein said diffuser has an interior that is generally conical in shape and comprises a cone angle that established the expansion rate of the cross sectional area encompasses with said diffuser (18) (see Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, 16, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ironside et al. (Patent Number 5,261,236), in view of Beckley et al. (6,158,082).

Ironside discloses the invention as recited above; however, Ironside fails to disclose a location of a bell-mouth transition.

Beckley teaches that it is conventional in the blower tube noise reduction art, to utilize a bell-mouth transition (63) positioned between the outlet of said plenum (62) and the inlet of the turbocharger (Read as a blower 30), for reducing

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the velocity of the air flow within the clean air duct and the inlet of the turbocharger (See Figure 10-11 and 16-18).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a bell-mouth transition (63) positioned between the outlet of said plenum and the inlet of the turbocharger, as taught by Beckley, to reduce the turbulence and acoustic energy generated by the air flow through the plenum outlet, and also to improve the efficiency of the turbocharger by reducing the flow resistance in the air supply to the impeller/rotor of the compressor in the Ironside device.

Claims 3-4, 9-10, 13, 17-18, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ironside et al. (Patent Number 5,261,236), in view of Beckley et al. (Patent Number 6,158,082), and further in view of Design choice.

The modified Ironside device discloses the invention as recited above; however, fails to disclose the radius of the bell-mouth transition being of approximately 20%, and from approximately 3 to approximately 30% of the effective diameter of the inlet of the turbocharger; and said plenum having a cross-sectional area lowering flow velocity through said plenum to less than 75 m/s.

One having an ordinary skill in the turbocharged internal combustion engine art, would have found the radius of the bell-mouth transition being of approximately 20%, and from approximately 3 to approximately 30% of the

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effective diameter of the inlet of the turbocharger; and said plenum has a cross-sectional area lowering flow velocity through said plenum to less than 75 m/s, as a matter of design choice. Moreover, there is nothing in the record, which establishes that the claimed pressure ratio of the compressor, presents a novel of unexpected result (See *In re Kuhle*, 526 F. 2d 553, 188 USPQ 7 (CCPA 1975)).

Claims 6-7 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ironside et al. (Patent Number 5,261,236), in view of Design choice.

Ironside discloses the invention as recited above; however, Ironside fails to disclose the cone angle being approximately 12 degrees, and in the range of approximately 4 to approximately 16 degrees.

One having an ordinary skill in the turbocharged internal combustion engine art, would have found the cone angle being approximately 12 degrees, and in the range of approximately 4 to approximately 16 degrees, as a matter of design choice, depending on the engine requirements. Moreover, there is nothing in the record, which establishes that the claimed pressure ratio of the compressor, presents a novel of unexpected result (See *In re Kuhle*, 526 F. 2d 553, 188 USPQ 7 (CCPA 1975)).

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ironside et al. (Patent Number 5,261,236), in view of

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Beckley et al. (Patent Number 6,158,082), and further in view of Design choice.

The modified Ironside discloses the invention as recited in the rejection of claim 8; however, Ironside fails to disclose the cone angle being approximately 12 degrees, and in the range of approximately 4 to approximately 16 degrees.

One having an ordinary skill in the turbocharged internal combustion engine art, would have found the cone angle being approximately 12 degrees, and in the range of approximately 4 to approximately 16 degrees, as a matter of design choice, depending on the engine requirements. Moreover, there is nothing in the record, which establishes that the claimed pressure ratio of the compressor, presents a novel of unexpected result (See *In re Kuhle*, 526 F. 2d 553, 188 USPQ 7 (CCPA 1975)).

Conclusion

The IDS (PTO-1449) filed on February 02, 2004 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Greene (US Patent Number 4,367,662) discloses a transmission throttle valve system for supercharged internal combustion engines.
- Minami et al. (US Patent Number 4,513,725) disclose a device for supplying fuel to pressure carburetor.

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- Minami et al. (US Patent Number 4,760,703) disclose an induction system for an internal combustion engine.
- Beckley et al. (US Patent Number 5,979,013) disclose a portable blower with noise reduction.
- Tomren (US Patent Number 4,421,455) discloses a duct lining.
- Jaroszczyk et al. (US Patent Number 5,106,397) discloses an air cleaner/noise silencer assembly.
- Goodman (US Patent Number 4,411,224) discloses a fluid injection system for a turbocharged internal combustion engine.
- Sheoran et al. (US Patent Number 6,520,738 B2) disclose a plenum entry bulk swirl generator.
- Bernd et al. (Patent Number EP 280121 A2) disclose an air plenum chamber.
- Jahr et al. (Patent Number WO 97/30276) disclose a turbine pack and a method for adapting a turbine pack.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
August 4, 2004



Thai-Ba Trieu
Patent Examiner
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